New ATBI species discoveries top 3,000 at Great Smokies

By Becky Nichols and Keith Langdon

THE GOAL of the All Taxa Biodiversity Inventory (ATBI) is to discover the species that occur in the 849-square-mile (2,200-sq-km) Great Smoky Mountains National Park (Tennessee and North Carolina). Sampling is to be done in such a way as to obtain distributional and abundance data and to elicit ecological information. All species, regardless of domain (i.e., Archaea, Bacteria, Eucarya) or kingdom (e.g., plant, animal), are targeted for inclusion. Furthermore, the ATBI actively involves students and other members of the public. The National Park Service and its partners in this project are hopeful that this exposure will lead to the recruitment of a new generation of scientists and nurture a science-oriented citizenry. This prototype effort is accomplished through a nonprofit partner, Discover Life In America (DLIA).

In 2003, ATBI activities continued to gear up—a "beetle blitz" attracted coleopterists from across the United States in June, and multiple taxonomic working groups (called TWiGs) benefited from a "high county quest" in July. Additionally, the ATBI has developed a new relationship with the National Biodiversity Information Infrastructure (NBII) node for the Southern Appalachians, resulting in a significant upgrade of the ATBI website (www.dlia.org) and data management functions. Participating scientists received $400,000 in funding from the National Science Foundation (NSF) to complete the algae portion of the ATBI, and slime mold researchers obtained a $2 million NSF Planetary Biodiversity award for a global study that will include Great Smoky Mountains National Park. Annual operations for this project are mostly dependent on funding from the Friends of the Smokies and the Great Smoky Mountains Association. (The ATBI is not funded by the Natural Resource Challenge or Natural Resource Preservation Program.)

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At the annual conference in December, Dr. Peter Raven, the world-renowned botanist and an advocate of biodiversity conservation, delivered the keynote address. He stressed the need for more efforts like the ATBI. The idea may be catching on, as representatives from other parks and reserves took part in a pre-conference session to learn how to undertake intensive biodiversity inventories.

By December 1, 2003, a total of 410 species new to science had been discovered. An additional 2,955 species constituted new records for the park, bringing the total of new discoveries to 3,365. ■

The adult male dobsonfly (*Corydalus cornutus*), also collected as part of the All Taxa Biodiversity Inventory, looks as if it can inflict a painful bite, but actually does not have the strength to do so. The larvae of this species, called hellgrammites, occur in a wide variety of aquatic habitats and are predaceous; adults are terrestrial.

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